Health Services
LOS ANGELES COUNTY

DHS Expected Practices

Specialty: Endocrinology

Subject: Management of Hyperthyroidism

Date: March 25, 2014

Purpose:

Guidelines for initial evaluation, medication dosing, and monitoring or treatment of hyperthyroid patients

Target Audience:

Primary Care Providers

Expected Practice:

See the below-referenced algorithm for hyperthyroid diagnosis and treatment

This *Expected Practice* was developed by a DHS Specialty-Primary Care Work Group to fulfill the DHS mission to ensure access to high-quality, patient-centered, and cost-effective health care. SPC Work Groups, composed of specialist and primary care provider representatives from across LA County DHS, are guided by 1) real-life practice conditions at our facilities, 2) available clinical evidence, and 3) the principle that we must provide equitable care for the entire population that LA County DHS is responsible for, not just those that appear in front of us. It is recognized that in individual situations a provider's clinical judgment may vary from this *Expected Practice*, but in such cases compelling documentation for the exception should be provided in the medical record.

DHS Adult Hyperthyroidism Protocol

Diagnostic Criteria for Hyperthyroidism:

1) Suppressed TSH and elevated FreeT3 or FreeT4
2) If suppressed TSH and normal FreeT3 or FreeT4 → no initial action indicated, repeat in 6 months

Hyperthyroid Treatment Protocol:

We advise medical treatment for most newly diagnosed hyperthyroid patients
For questions about radioactive iodine use →**eConsult**

1) For initial dose of Methimazole - use Table 1
2) If referred on PTU, switch to methimazole (1/10th of PTU dose)
3) Patients with tachycardia or palpitations can be put on beta blocker
4) If already on anti-thyroid meds, follow tables 2-4 below as needed to adjust dose

Treatment Notes:

- If patient has a tender thyroid, consider thyroiditis→**eConsult**
- If patient is pregnant or has a nodule →**eConsult**
- Dose daily if methimazole dose is ≤ 30 mg/day or twice a day if > 30 mg/day. Maximal dose is 60 mg/day
- Check baseline CBC and LFT initially and then every 6 months, ask about rash on each visit
- Warn the patient about sore throat on each visit (if they develop a sore-throat, check CBC with diff as neutropenia is a rare but serious side effect of methimazole)
- Recheck freeT4, freeT3 and TSH in 2 months and then every 2 months if changes in dose and every 3 months if dose is the same
- If methimazole stopped, follow for 2 years, check freeT4, freeT3 and TSH in 2 months and again in 2 months, then every 4 months for 2 visits then every 6 months for 2nd year
- If methimazole treatment continues for more than 2 years or there are side effects → **eConsult**

Table 1 Initial Dosing*

FreeT4 value	FreeT3 value	Dose of Methimazole
> 4.5	> 12	20-30 mg bid
3.5-4.5	10.0-11.9	30 mg qam
2.7-3.4	8.0-9.9	20 mg qam
2.3-2.6	6.5-7.9	15 mg qam
2.0-2.2	5.2-6.4	10 mg qam
1.7-1.9	4.3-5.1	5 mg qam
< 1.7	<4.3	No Methimazole

*If FreeT4 and Free T3 give discrepant dosing, go with higher dose.
*If FreeT4 and Free T3 not available →**eConsult**

Table 2 - Up Titration of medication*

FreeT4 Value	Increase daily dose of Methimazole by
> 3.5	20 mg
2.5-3.4	10 mg
2.0-2.4	5 mg if dose ≥ 10 mg
2.0-2.4	2.5 mg if dose <_10 mg
1.7-1.9	2.5 mg
0.91- 1.6	0

*If Free T4 is normal and Free T3 4.3-5.5, increase methimazole by 2.5 mg.
*If Free T4 is normal and Free T3 > 5.5, increase methimazole by 5.0 mg.
*If TSH is not suppressed, consider lab error and repeat.

Table 3 - Down titration of medication

FreeT4 Value	TSH Value	Decrease daily Dose of Methimazole by
0.5-0.9	OR TSH is >3.0	10 mg if dose > 20 mg
0.5-0.9	OR TSH is >3.0	5 mg if dose is 10 -20 mg
0.5-0.9	OR TSH is >3.0	2.5 mg if dose ≤ 10 mg
< 0.5	OR TSH is >7.0	Decrease dose in half

Table 4 – Instructions for patients with methimazole dose of 2.5 mg

FreeT4 Value	TSH Value	Dose of Methimazole
< 0.8	OR TSH is >4.0	Stop methimazole
0.8-0.95	OR TSH is 2.5-4.0	2.5 mg, M, W, F
<0.95	OR TSH is > 2.5	If on 2.5 mg, M, W, F, then **stop methimazole**